NUCLEAR ENERGY INSTITUTE

Felix M. Killar, Jr.
DIRECTOR,
Fuel Supply/Material Licensees
Direct Line 202.739.8126
Internet fmk@nei.org

June 7, 2004

Dockets Management System
U.S. Department of Transportation
Nassif Building, Room PL-402
400 Seventh Street, SW
Washington, DC 20590-0001

REFERENCE: Docket Number RSPA-04-16964 (Notice No. 04-3)

Hazardous Materials: Regulations for the Safe Transport of Radioactive Material (TS-R-1); Solicitation of Proposed Changes, 69 Fed. Reg. 25656 (May 7, 2004)

The Nuclear Energy Institute (NEI)[1] on behalf of its industry members is submitting the following comments on the aforementioned Solicitation of Proposed Changes, "Hazardous Materials: Regulations for the Safe Transport of Radioactive Material (TS-R-1)", Docket Number RSPA-04-16964. The comments are based on industry's review of the Federal Register Notice and on current industry practices in the areas of risk assessment and management. NEI strongly supports the efforts of the U.S. Department of Transportation (DOT) to develop and implement regulations to protect workers, the public and the environment and to enhance the safety and security of domestic and international shipments of radioactive materials. DOT-licensed carriers have demonstrated an exemplary record in transporting radioactive materials. The Regulations for the Safe Transport of

[1] NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

Radioactive Material through the use of TS-R-1 as the foundation provides an excellent international standard for the safe transportation of radioactive materials.

In reviewing TS-R-1 there are only three changes that we would proposed. They are; 1. remove the double standard for the definition of natural materials, 2. remove the requirements for a Type "C" package, and 3. remove the thermal requirements for large UF_6 packages. Each of these is discussed below.

1. The industry is perplexed by the double standard in TS-R-1. §107(c) excludes natural materials and ores from being classified as 'radioactive' for transportation purposes if they are not to be "*...processed for use of these radionuclides provided the activity concentration of the material does not exceed 10 times the values specified in §§401-406...*"

   There should not be distinction if the material is not designated for the use of its radioactivity. The industry's perspective is, if the material can be shipped without being classified as "radioactive" if it is not to be processed for the radioactive material, then it should not be classified as "radioactivity" if it is to be process for its radioactive materials. Therefore, the industry recommends that §107(c) is revised to exclude natural materials and ores from being classified as 'radioactive' for transportation purposes if "*...these radionuclides activity concentration of the material do not exceed 10 times the values specified in §§401-406...*"

   Whether a material should be classified as 'radioactive' or 'non-radioactive' should not be based on the intended use of the material, but rather solely on its radionuclide properties. For example, if material contains 3 Bq/g of natural uranium, it can be sent to a disposal facility without being classified as 'radioactive.' However, if the same material is being sent to a conventional uranium mill as feed it would be classified as 'radioactive' (assuming, too that the total activity of the consignment exceeded 1,000 Bq) and require all of the extra radionuclide characterization, packaging, labeling, shipping documentation and security requirements. The hazard or non-hazards of a material undergoing shipment are the same regardless of the intended use of the material.

2. Removal of the Type "C" package category. The introduction of the new package type "C" was influence by legislation passed in the United States of America in Public Law 94-74. This law prohibited the US Nuclear Regulatory Commission from licensing the air shipment of plutonium until a container had been designed and certified that would withstand the explosion and crash of a high-flying aircraft. The criteria for the design of a container

for the air transport of plutonium were published in NUREG-0360. The intent of NUREG-0360 was to cover plutonium shipments by air only.

The proposal for the removal of the Type C requirements is based on the following. The IAEA development of aircraft accident severity information through a coordinated research project for further evaluation of the Type C and LDM requirements has not been completed. There are no known Type C packages and there are very few anticipated shipments affected by the Type C requirements. It is not consistent with U.S. Law currently in place, based on specific statutory mandates, governing air transport of plutonium. In addition the Federal Register Vol, 67, No.83, Tuesday April 30, 2002, specifies that the USNRC draft RA indicates that not adopting the TS-R-1 Type C provisions is appropriate from a safety, regulatory and cost standpoint.

Paragraphs affected to regulatory text in TS-R-1 (ST-1, Rev.) result in deleting §§ 416, 417, 667 to 670, 734 to 737 and removing reference to Type C in §§230, 501, 502, 538, 539, 558, Table VIII, 730, 802, 806, 808, 828.

You will find attached a white paper that provides the unintended negative impact of the type "C" package.

3. The requirement for the specific thermal test in §728 results in unwarranted, increased handling of packages for natural uranium hexafluoride. This requirement should be removed from the regulations.

   The following is the justification for change. The addition of the requirement to meet the thermal test described in §728 was made in recent editions of the regulation, with the use of multilateral approval of "H" package design certification in recent years. Development of methods to address the means to achieve unilateral package design certification, H(U), has resulted in the design of two options for thermal covers. Fieldwork to date indicates that the use of these thermal covers adds incremental dose to transport workers who install and remove them as well as undue costs to shippers and carriers when compared to the benefit gained by their use. Thermal modeling of uranium hexafluoride shows that existing 48 type X and Y packages used for transport generally meet the prior thermal requirement. However the precision of the modeling limits the calculated result as meeting the requirement with a plus-minus allowance just below and just above the required 30 minutes for §728 (a). The benefit gained by the use of this equipment is not sufficient to warrant the increased dose to workers as well as the handling costs and difficulty due to their weight and awkward shape. Additional reports and

documentation associated with this issue are being developed and are expected to support this justification and describe the issue in more detail.

Paragraphs affected to regulatory text in TS-R-1 (ST-1, Rev.) result in deleting the thermal requirement for the 48 type X and Y in §728.

NEI looks forward to working with the DOT and the NRC to develop regulations for the transportation of radioactive materials. If you have any questions concerning our comments please contact me.

Sincerely,

Felix M. Killar, Jr.

cc: John Cook - U.S. Nuclear Regulatory Commission
Richard Boyle – U.S. Department of Transportation